DOCUMENT RESUME

ED 295 082 CG 020 822

TITLE Smoking, Tobacco & Health: A Fact Book.
INSTITUTION Center for Health Promotion and Education (CDC), Rockville, MD. Office on Smoking and Health.
PUB DATE 87
NOTE 47p.
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Cancer; *Diseases; Drug Addiction; *Heart Disorders; *Physical Health; *Smoking; *Tobacco; Trend Analysis

ABSTRACT

This document presents an update of a fact book first published by the Public Health Service in 1969. It deals with the medical, social, and economic aspects of cigarette smoking and identifies cigarette smoking as the chief preventable cause of death in the United States. The first section, Smoking, Tobacco & Health, examines trends in cigarette smoking for the years 1900 through 1985 and corresponding statistics on lung cancer deaths; discusses the popularity and addictiveness of cigarettes; and looks at who smokes and why, teenagers and smoking, and former smokers. A section on smoking and health compares life expectancies of male smokers and nonsmokers. Cigarette smoking and its relationship to cancer, heart disease, and chronic lung disease are examined. The constituents of cigarettes are identified and the introduction of low-tar and low-nicotine cigarettes is discussed. Also included are discussions of women and smoking; smoking and the workplace; pipes, cigars, and smokeless tobacco; and passive smoking. A section on cigarette manufacturing and marketing looks at cigarette marketing, cigarette advertising, and cigarette taxes. Other sections discuss the growing of tobacco and the cigarette trade worldwide. (NB)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED295082

CG 020822

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☑ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

A FACT BOOK

U.S. Department of Health and Human Services
Public Health Service
Centers for Disease Control
Center for Health Promotion and Education
Office on Smoking and Health

This is an update of a fact book first published by the Public Health Service in 1969. Like its predecessors, it deals with the medical, social, and economic aspects of cigarette smoking. It identifies cigarette smoking as the chief preventable cause of death in the United States.

Sources for most medical information are the annual *Reports of the Surgeon General on the Health Consequences of Smoking*, which are issued by the Department of Health and Human Services each year. Information on the tobacco economy comes principally from the Economic Research and the Foreign Agricultural Services of the U.S. Department of Agriculture, with additional data from the U.S. Department of Commerce and the Federal Trade Commission.

Smoking, Tobacco, & Health

Each year cigarette smoking causes the deaths of more than 300,000 Americans, principally from heart disease, cancer, and chronic obstructive lung disease. It can legitimately be termed the most devastating epidemic of disease and premature death this country has ever experienced.

The epidemic began some 75 years ago. In 1915, most tobacco was used for pipes, cigars and chewing tobacco, and fewer than 20 billion cigarettes were smoked. Lung cancer, the disease most closely associated with cigarette smoking, was virtually unknown; as late as 1935, there were fewer than 5,000 deaths from this disease. Today Americans smoke 600 billion cigarettes each year,

Per capita consumption of cigarettes (18 years and older), 1925–1985

Year	Number of Cigarettes	Year	Number of Cigarettes	Year	Number of Cigarettes
1925–29	1,285	1960	4,171	1975	4,123
1930–34	1,389	1961	4,266	1976	4,092
1935–39	1,779	1962	4,265	1977	4,051
1940–41	2,558	1963	4,345	1978	3,967
1945–49	3,459	1964	4,195	1979	3,861
1950	3,522	1965	4,259	1980	3,851
1951	3,744	1966	4,287	1981	3,840
1952	3,886	1967	4,280	1982	3,753
1953	3,778	1968	4,186	1983	3,502
1954	3,546	1969	3,993	1984	3,461
1955	3,597	1970	3,985	1985	3,384
1956	3,650	1971	4,037		
1957	3,755	1972	4,043		
1958	3,953	1973	4,148		
1959	4,073	1974	4,141		

U.S. Department of Agriculture

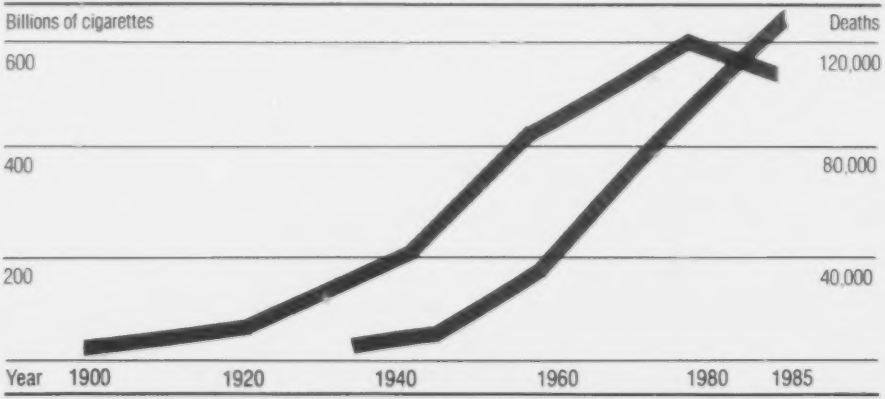
and 120,000 men and women die of lung cancer.

The epidemic of cigarette smoking reached its peak in 1963 and is now receding. The percentage of smokers in the population is falling, per capita consumption is down to the levels of the 1940s, and deaths from cigarette smoking are beginning to fall. However, some 52 million adults and as many as 2 million teenagers continue to smoke.

Cigarettes became popular for several reasons. They are inexpensive (or were until recently), they are the only form of tobacco which large numbers of women have ever taken up, and they are profitable to manufacture, making it possible for the cigarette companies to spend large sums of money advertising and promoting them. The most important reason for the continued use of cigarettes, however, is that for many people, cigarette smoking is addictive. Cigarette smoke is relatively mild and can be more easily inhaled than other tobacco smoke, enabling the smoker to absorb more nicotine, more quickly. It is nicotine which helps establish this addiction.

In the early 1940s, a precipitous rise in lung cancer deaths took place and by the mid 1950s, scientists were able to say with certainty that cigarette smoking was the overriding cause of these deaths. Later, they established that cigarette smoking is also a cause of other diseases.

Cigarette consumption and lung cancer deaths, 1900–1985



U.S. Department of Agriculture, American Cancer Society, National Center for Health Statistics

including heart disease, chronic obstructive lung disease, and other cancers.

The turning point in America's epidemic of cigarette smoking came on January 11, 1964, when the Public Health Service issued its epochal *Smoking and Health: Report of the Advisory Committee to the Surgeon General.* This indicted cigarette smoking as a cause of illness and premature death and began a national and worldwide effort by Government and private agencies to warn the public about the hazards of smoking.

The effort is continuing; the World Health Organization and the health agencies of virtually every country in the world now have anti-smoking programs in progress. In the United States the effort at the Federal level is mandated by Congress and at State and local levels is carried on by health and educational departments. Private medical and health agencies also have aggressive programs in effect, notably the American Cancer Society, the American Heart Association, the American Lung Association, and the American Medical Association.

In the years since 1964, cigarette consumption in the United States and in other western countries has declined. The cigarette companies have continued to prosper during these years, but the tobacco farmer and the tobacco-growing economy are faring less well.

Who smokes cigarettes—and why

Proportionately fewer adults smoke cigarettes today than at any time since the 1950s. The most significant decline has been among men, but there are also proportionately fewer women who are smoking. The decline has taken place in every age group and at every income level, but the decline has been greatest among the better educated and those with higher income.

On the average, fewer college graduates smoke than persons with less education, fewer white collar workers than blue collar workers, and fewer whites than blacks, although blacks smoke fewer cigarettes.

Smokers, former smokers, and never smoked, 1965–1985

(percent)	Current Smokers				Former Smokers				Never Smoked			
	1965	1976	1980	1985	1965	1976	1980	1985	1965	1976	1980	1985
All males												
20 yrs and over	52.4	41.9	38.3	33.2	20.5	28.9	29.3	31.9	27.1	29.2	32.4	34.9
20–24 years	59.2	45.9	39.7	31.0	9.0	12.2	12.1	11.3	31.8	41.9	48.2	57.7
25–34 years	60.7	48.5	43.1	38.2	14.7	18.3	20.6	19.6	24.6	33.2	36.3	42.2
35–44 years	58.2	47.6	42.6	37.6	20.6	27.3	27.6	32.2	21.2	25.1	29.8	30.2
45–64 years	51.9	41.3	40.8	33.4	24.1	37.1	36.9	42.0	24.0	21.6	22.3	24.6
65 years and over	28.5	23.0	17.9	19.6	28.1	44.4	47.4	52.5	43.4	32.6	34.7	28.0
White males												
20 yrs and over, age adjusted	51.3	41.0	37.1	32.3	21.2	30.7	31.9	33.4	27.5	28.3	31.0	34.3
Black males												
20 yrs and over, age adjusted	59.6	50.1	44.9	40.7	12.6	20.2	20.6	22.0	27.8	29.7	34.5	37.2
All females												
20 yrs and over	34.1	32.0	29.4	27.9	8.2	13.8	15.5	18.7	57.7	54.2	55.1	53.4
20–24 years	41.9	34.2	32.7	32.1	7.3	10.4	11.0	10.9	50.8	55.4	56.3	57.1
25–34 years	43.7	37.5	31.6	32.0	9.9	12.9	14.4	16.6	46.4	49.6	54.0	51.4
35–44 years	43.7	38.2	34.9	31.5	9.6	15.8	18.9	20.0	46.7	46.0	46.2	48.5
45–64 years	32.0	34.8	30.8	29.9	8.6	15.9	17.1	21.4	59.4	49.3	52.1	48.7
65 years and over	9.6	12.8	16.8	13.5	4.5	11.7	14.2	21.2	85.9	75.5	69.0	65.3
White females												
20 yrs and over, age adjusted	34.5	32.4	30.0	27.7	8.5	14.6	16.3	19.7	57.0	53.0	53.7	52.6
Black females												
20 yrs and over, age adjusted	32.7	34.7	30.6	32.0	5.9	10.2	11.8	12.7	61.4	55.1	57.6	55.3

Demographic characteristics of smokers 18 years and older, 1983

	Percent smoking	
Income	Male	Females
Under 5,000	39.4	32.9
$5,000–9,999	36.7	32.0
$10,000–14,999	37.1	27.6
$15,000–19,999	36.3	31.1
$20,000–24,999	35.2	29.2
$25,000–34,999	32.1	27.1
$35,000+	30.6	27.3
Marital status		
Never Married	29.5	30.2
Currently Married	33.6	27.5
Widowed	27.9	19.6
Separated or Divorced	51.9	45.4
Education		
Less than High School	36.6	21.5
Some High School	46.4	39.2
High School Graduate	37.1	32.3
Some College	31.0	26.4
College Graduate	23.8	17.9
Post College	16.3	16.8

	Percent smoking	
Race	Male	Females
White	33.4	28.7
Black	39.1	32.0
Other	33.3	15.3
Occupation		
White Collar (total)	27.9	29.4
Professional	21.5	19.9
Technical	25.6	30.3
Executive	27.9	34.9
Sales	33.1	31.6
Administrative	34.4	31.8
Blue Collar	42.7	37.8
Service Professions	41.2	36.5
Farming	35.6	22.2
Not in the Labor Force	28.3	25.5

Teenagers and smoking

Teenagers are also turning away from cigarettes. In the past ten years, the percentage of high school seniors who smoke every day has declined from 29 percent to less than 20 percent. Young men are doing better than young women, and there are now fewer boys smoking than girls.

Cigarettes cause harm to even the beginning smoker, with such results as reduced lung function, smoker's cough, and other respiratory difficulties. The most harmful effect of teenage smoking, however, is the likelihood of addiction. The earlier a person starts smoking, the more difficult it appears to be for such a smoker to quit later on in life.

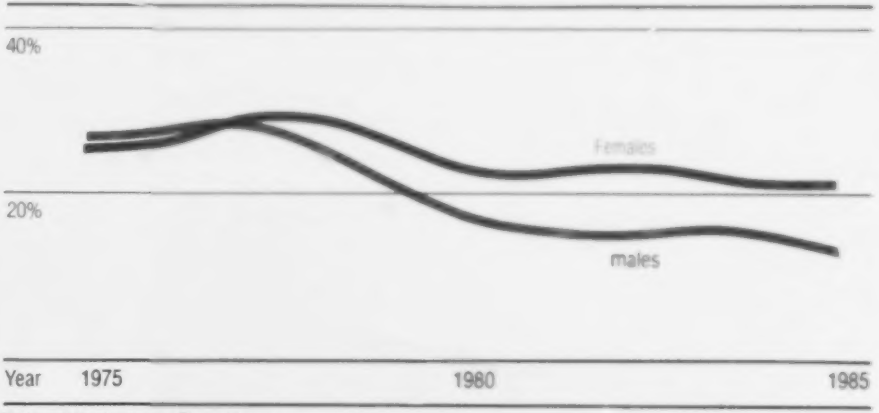
Seventy-five percent of all teenage smokers come from families where parents smoke.

Former smokers

Most people who smoke would like to quit. At least two-thirds of all smokers have tried at one time or another and, in any one year, 25 percent try. Quitting is difficult for many people, but it is by no means impossible. There are now more than 37 million men and women in our population who once were smokers but who have given it up.

For those who succeed, quitting pays off. Ten years after quitting, the death rates of former smokers are approximately the same as those of people who have never smoked at all.

Daily cigarette smoking by high school seniors 1975–1985



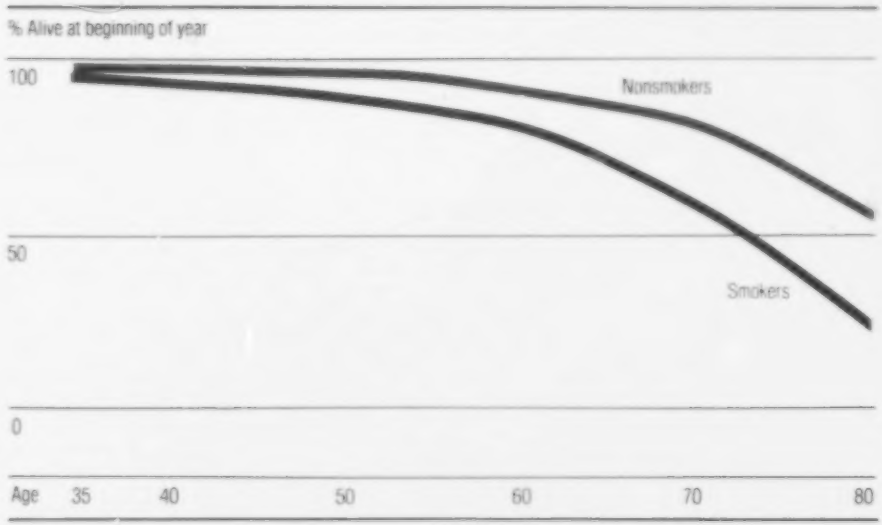
National Institute on Drug Abuse

Smoking and Health

People who smoke cigarettes run a greater risk of premature death than people who do not smoke. This is true at every age, among men and women alike. The risk is greater at young ages: for men under the age of 65, the smoker's risk of death is approximately twice that of the nonsmoker's.

These added risks have a cumulative effect. The accompanying illustration shows the survival of male smokers and nonsmokers beginning at age 35. As will be seen, 10 percent of the smokers die before they reach the age of 55, but only 4 percent of nonsmokers. By age 65, 28 percent of the smokers have died, compared to 10 percent of the nonsmokers. By age 75, 50 per-

Survival of male smokers and nonsmokers, from age 35



Society of Actuaries (Cowell and Hirst)

cent of the smokers have died, but only 25 percent of the nonsmokers.

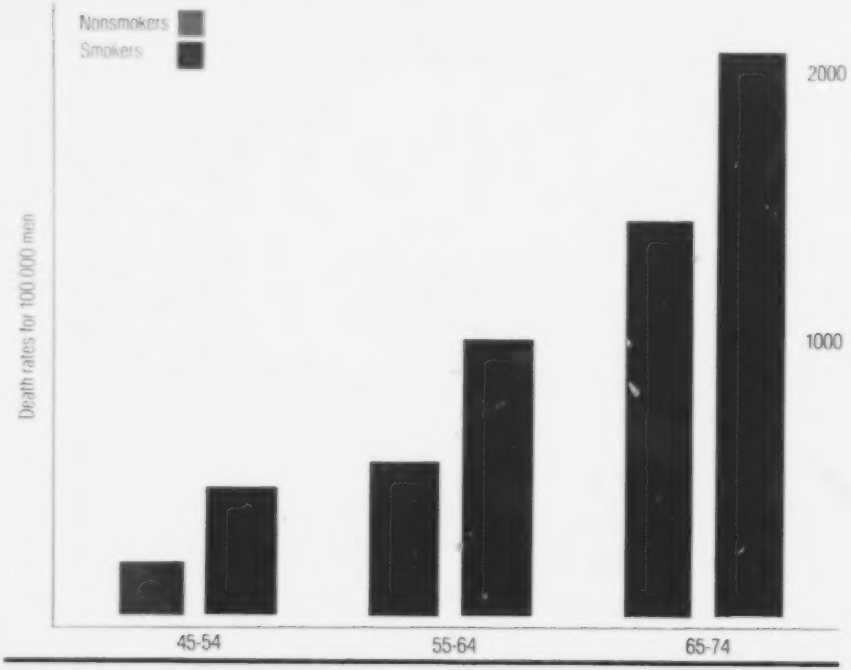
Cigarette smoking affects health and wellbeing and interferes with work performance. It carries with it enormous economic costs, an estimated $23 billion in medical costs each year and another $30 billion lost to society because of illness and premature death. Medicare alone pays out at least $3 billion annually to care for those who are ill from cigarette-related disease.

Cancer, heart disease, and chronic lung disease

Cigarette smoking causes up to 170,000 deaths each year from coronary heart disease, 130,000 deaths from cancer, and 50,000 deaths from chronic obstructive lung disease.

More people die from heart

Coronary heart disease, smokers vs. nonsmokers



Health Consequences of Smoking, 1983

disease in the United States than from any other cause, and an estimated 30 percent of coronary heart disease deaths are the result of cigarette smoking. People who smoke are at nearly twice the risk of dying of heart attack as nonsmokers; men who smoke and are between the ages of 45 to 54 are at nearly three times the risk.

The three major risk factors for heart disease are cigarette smoking, hypertension, and high blood pressure. Smoking by itself doubles the risk of heart disease; when it is combined with high blood pressure or elevated cholesterol, the risk is four times greater, and when all three risk factors are present, the risk is eight times greater.

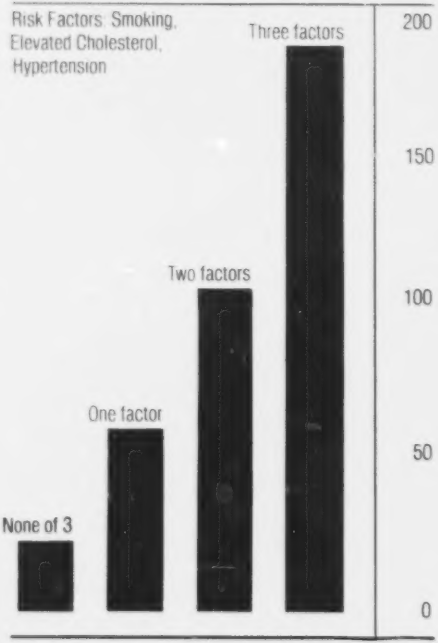
Cancer is second to heart disease as a cause of death in the United States and cigarette smoking is the largest single cause of cancer. Thirty percent of all cancer deaths and between 80 and 90 percent of all lung cancer deaths are caused by smoking.

The cancers associated with cigarettes, other than lung cancer, are cancers of the larynx, oral cavity, esophagus, bladder, pancreas, and kidney.

Chronic obstructive lung disease is a debilitating disease, with death commonly preceded by years of suffering and illness; from 80 to 90 percent of deaths from this disease is attributable to smoking. Emphysema, one form of this disease, has become one of the chief causes of chronic disability in the United States; more than 2 million persons suffer from it, at least a quarter of whom are so seriously handicapped that they are no longer able to work or maintain a house-

Risk factors for coronary heart disease

(rate per 1,000 men age 30–59 at entry)



Health Consequences of Smoking, 1983

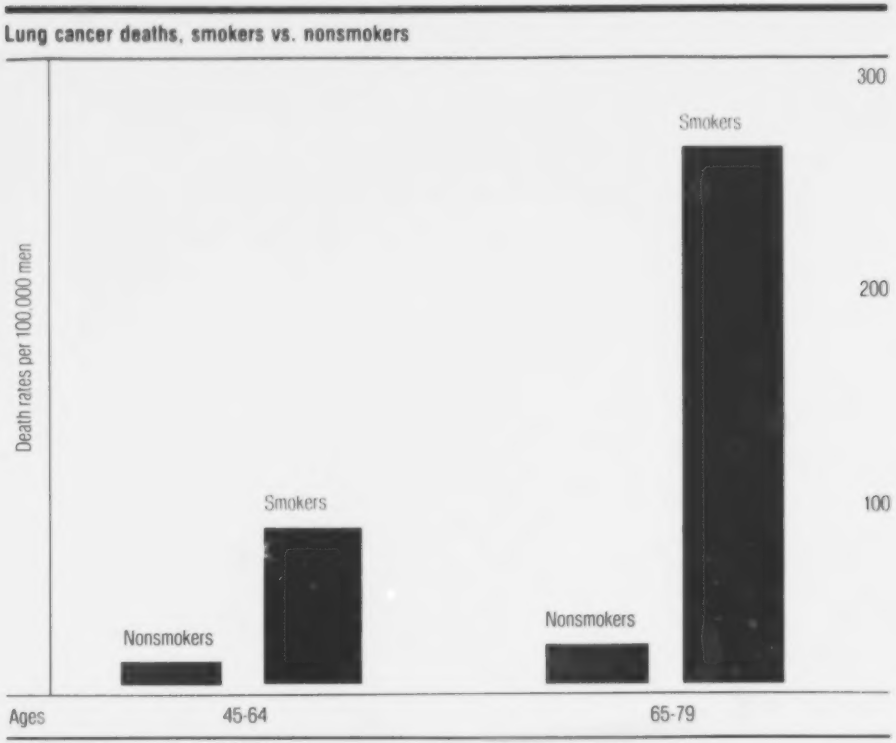
hold. Emphysema in the past has been for the most part a man's disease, but in recent years its incidence among women has increased as more women have taken up smoking.

The constituents of cigarette smoke

Cigarettes cause the harm they do because of the substances contained in cigarette smoke and because of the smoker's extraordinary exposure to these substances over days, months, and years.

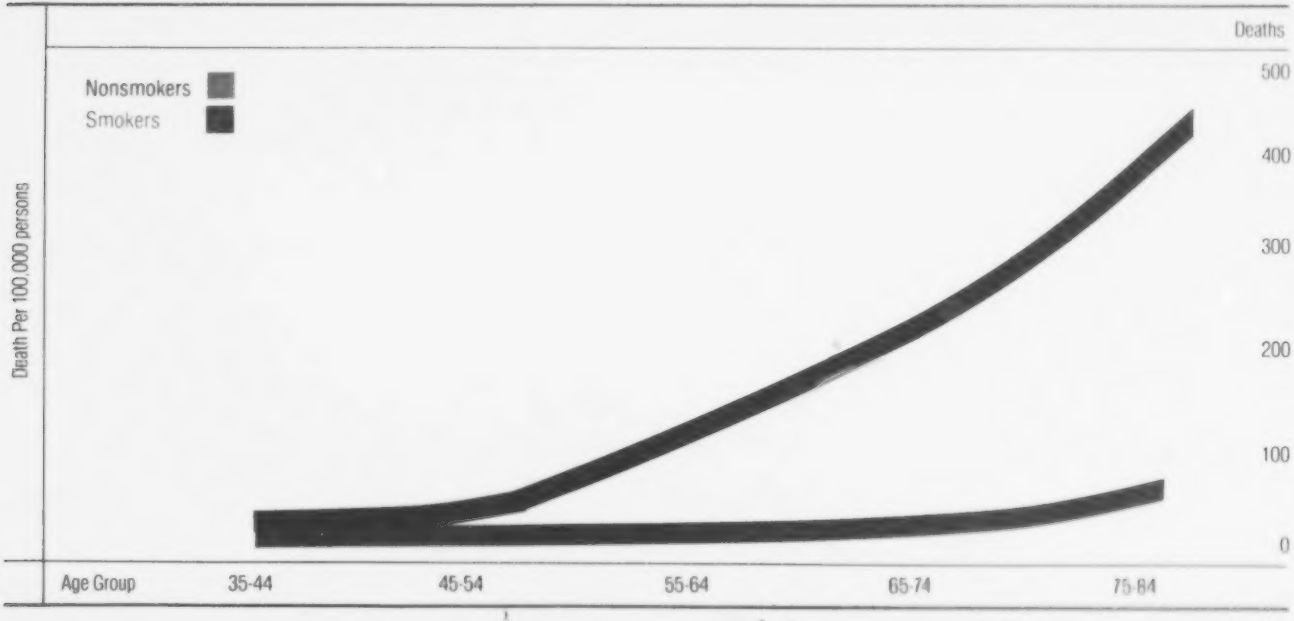
More than 4,000 chemicals have been identified in cigarette smoke, including some which cause or promote cancer and others which are toxic or harmful in other ways. For many of these substances, there is no safe level of exposure.

Three components of cigarette



smoke are tar, nicotine, and carbon monoxide. Tar is the material which remains after cigarette smoke has been passed through a filter and contains most of the cancer-causing substances in the smoke. carbon monoxide is a gas found in cigarette smoke, and nicotine is a drug unique to tobac-

Chronic obstructive lung disease deaths, smokers vs. nonsmokers



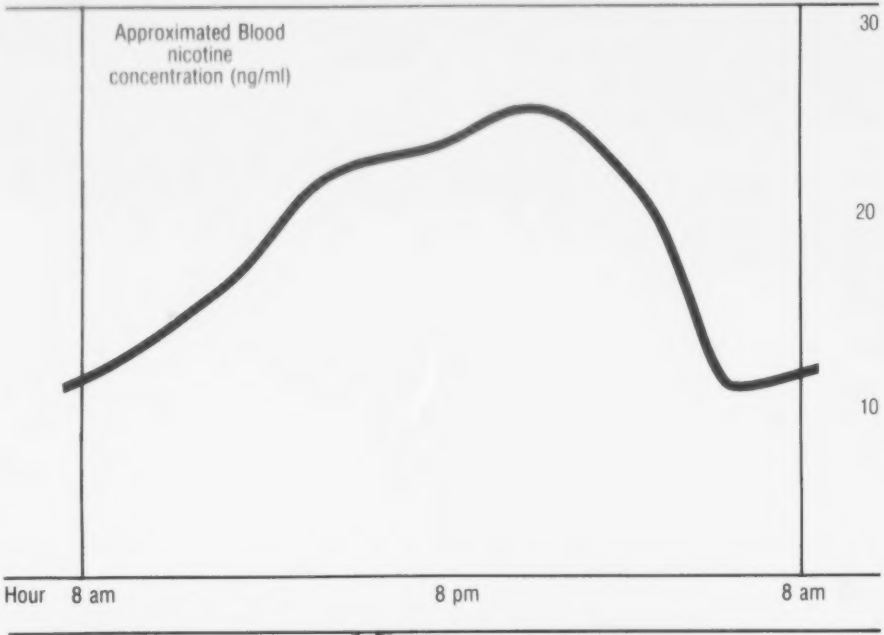
U.S. Veterans Study

co which is related to addictive smoking. Nicotine is also implicated in heart attacks and the onset of cancer.

Smokers tend to develop their own, unique patterns of smoking, which they vary only slightly from one day to the next. In doing this, they expose themselves to nicotine and other substances in cigarette smoke more constantly and to a greater extent than do users of other drugs and substances of abuse. A two-pack-a-day smoker spends from three or four hours each day with a cigarette in mouth, hand, or ash tray, takes about 400 puffs, and inhales up to 1,000 milligrams of tar each day.

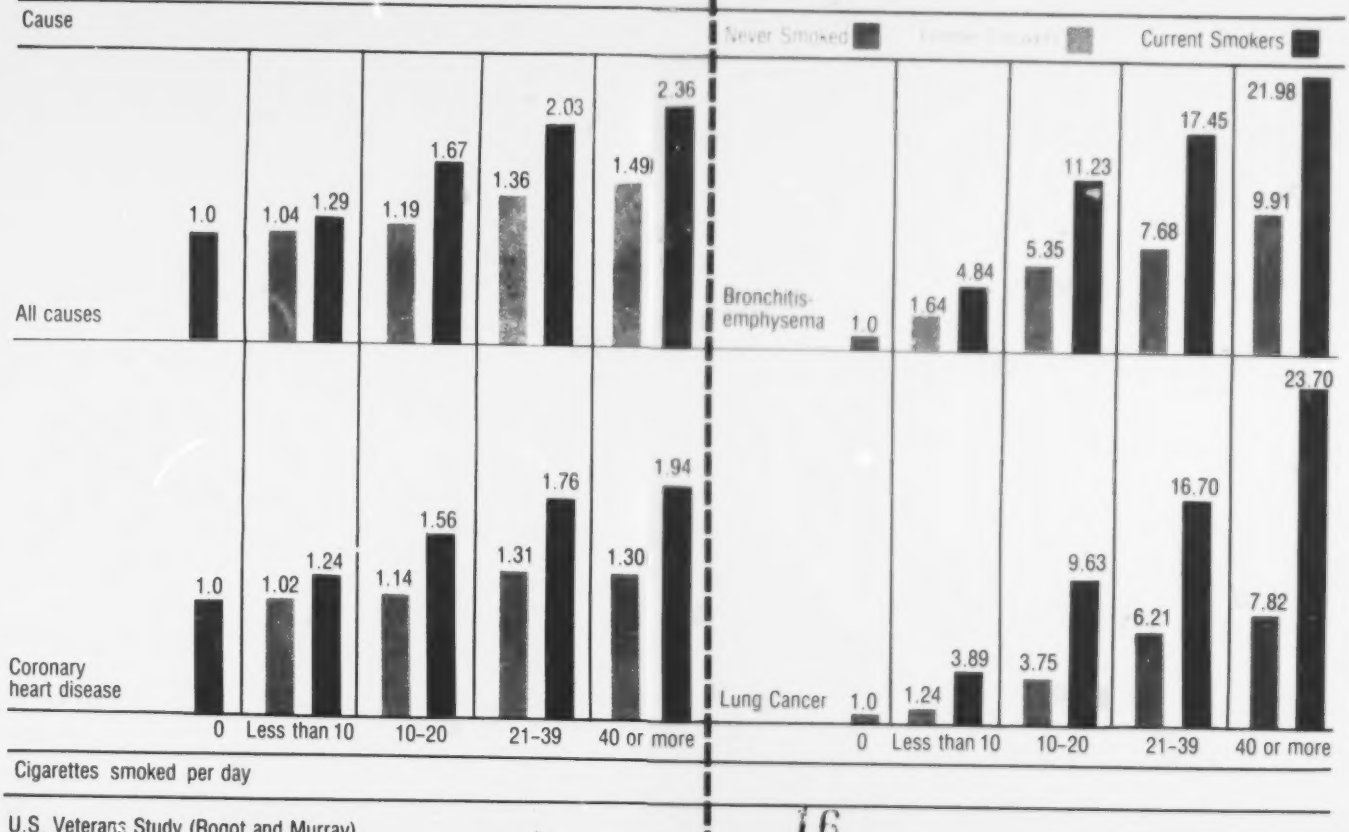
The body's uptake of carbon monoxide and nicotine follow very similar patterns, rising quickly in the morning, continuing to rise during the day, and subsiding at night. Carbon monoxide makes up nearly 4 percent of cigarette smoke. When it is inhaled, it combines with hemoglobin in the blood to form carboxyhemoglobin, which interferes with the body's

A smoker's level of nicotine over 24 hours



Benowitz and Jacob

Mortality ratios for selected diseases, smokers and exsmokers



U.S Veterans Study (Rogot and Murray)

ability to obtain and utilize oxygen. Carbon monoxide is implicated in many of the disease processes associated with cigarette smoking, including harmful effects on the development of the fetus. Smokers have levels of carboxyhemoglobin from twice to 15 times higher than nonsmokers.

Low-tar and low-nicotine cigarettes

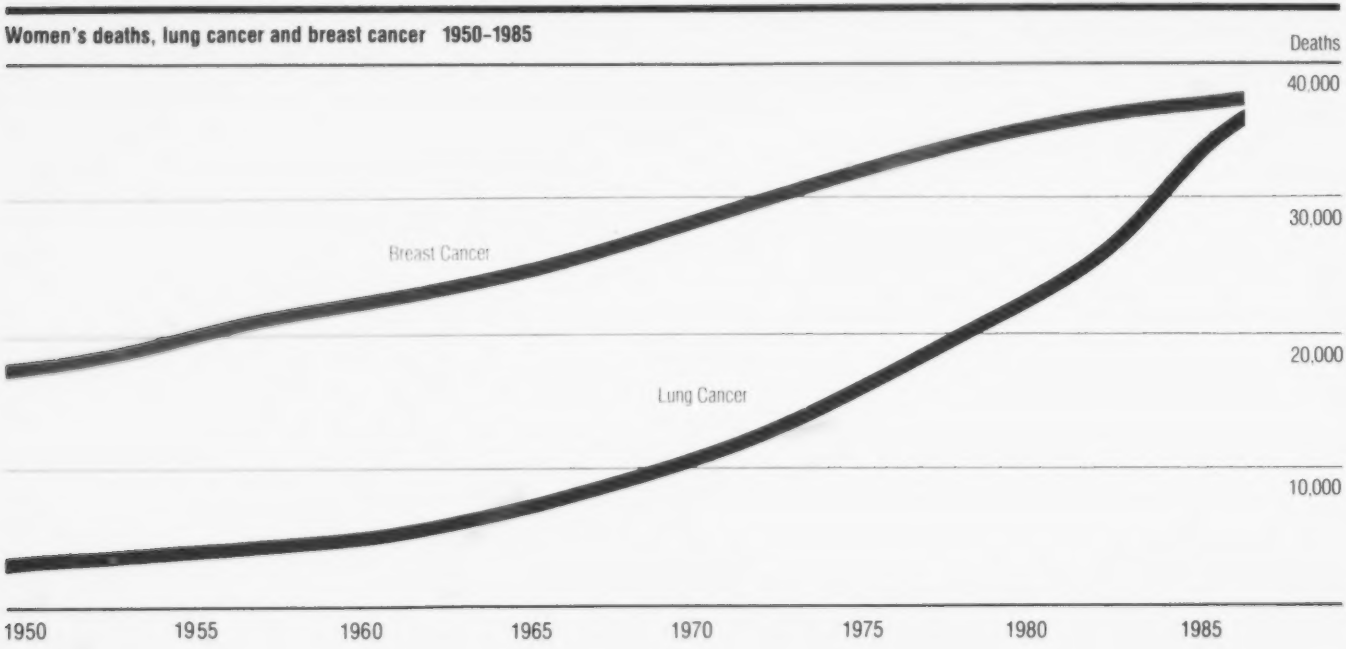
Cigarette smoking is "dose-responsive"—the more one smokes, the greater the risk. Exposure is determined by the cigarette brand which is smoked, the number of cigarettes smoked, how many puffs are taken, and how deeply the smoke is inhaled.

Many smokers have switched to lower tar and nicotine cigarettes in the hope of reducing the risks of smoking. To some extent they may have benefitted from this, but the benefit is miniscule compared to the benefits of quitting entirely. Some reduction in the risk of lung and laryngeal cancer may result from smoking lower yield cigarettes, but there is no data to suggest that other health risks are substantially reduced.

The Federal Trade Commission tests cigarette brands for tar, nicotine, and carbon monoxide; what it measures, however, does not necessarily correspond to what a smoker actually obtains. A cigarette found to be in the 1 to 5 mg tar range can become a 15 to 20 mg tar cigarette if the smoker takes more or deeper puffs, or even partially blocks the ventilating holes or channels which are found in many cigarette filters.

The average smoker now smokes 31 cigarettes per day, compared to an average of 26 cigarettes 30 years ago. One reason is that those smokers who have shifted to lower yield cigarette brands may have increased the number of cigarettes they smoke in compensation.

Women and smoking
Men began smoking in large numbers immediately before World War I, and lung cancer deaths among men began to rise 20 years later. Women began smoking intensively during and after World War II and 20 years after that, lung cancer deaths

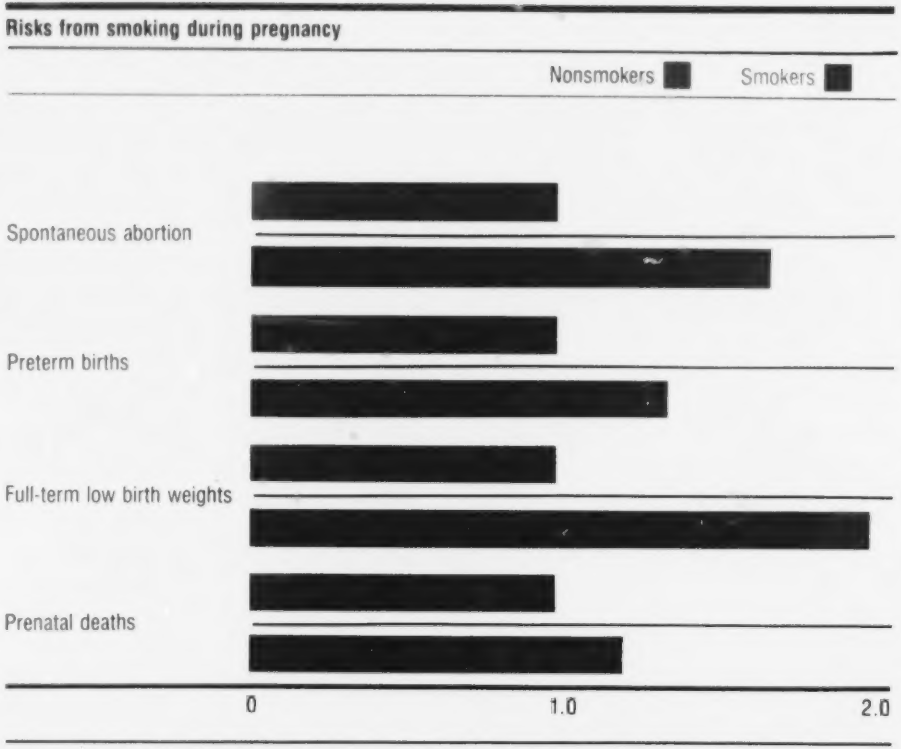


American Cancer Society

among women began to rise. In 1985, lung cancer surpassed breast cancer as the chief cause of cancer death among women.

Smoking during pregnancy poses serious risks. Spontaneous abortion, preterm births, low-weight babies and fetal and infant deaths all occur more frequently when a pregnant woman smokes. If mothers smoke after the baby is born, this is harmful, too. If the baby is nursed, it receives nicotine in its milk, and if people smoke near the baby, the baby incurs an increased risk of bronchitis and pneumonia.

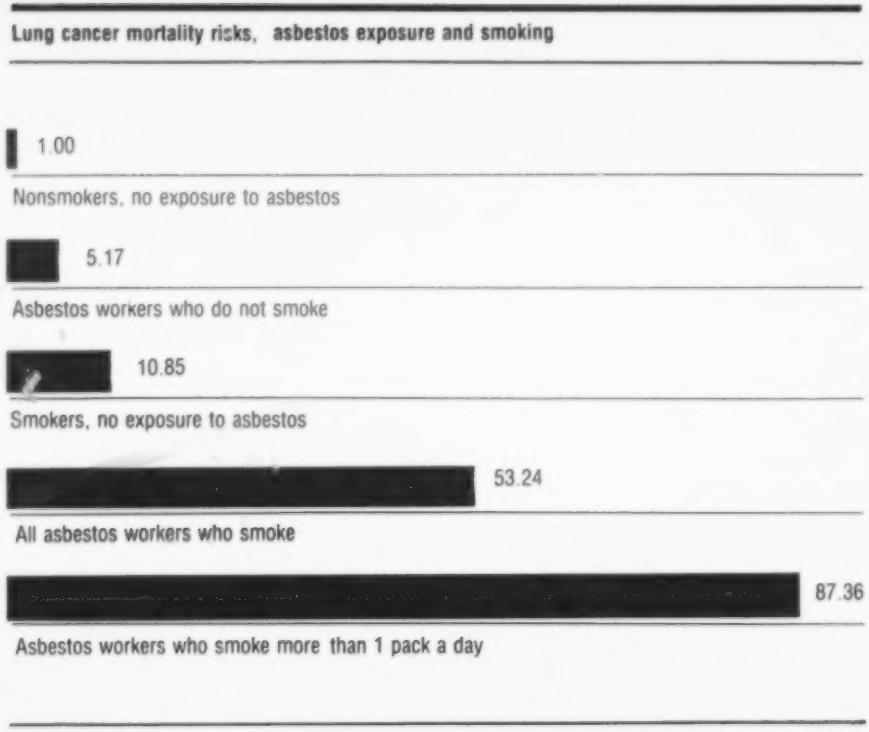
Women who smoke experience a greater risk of coronary heart disease than other women their age, especially if they use oral contraceptives.



Health Consequences of Smoking, 1980

Smoking and the workplace

Cigarette smoking and occupational exposures both contribute to the incidence of cancer and chronic lung disease. In some cases, as with coal miner's Black Lung disease, the two exposures work independently to increase the risk and severity of disease, while in other cases they interact synergistically to create more disease then would be anticipated simply by adding the separate effects. This is the case with asbestos; asbestos workers who do not smoke have a 5-fold risk of lung cancer over nonsmokers who are not exposed to asbestos, but those who work with asbestos and who smoke cigarettes have a 50-fold risk. Those who are heavy smokers have an 87-fold risk.


Lung cancer mortality risks, asbestos exposure and smoking
1.00
Nonsmokers, no exposure to asbestos
5.17
Asbestos workers who do not smoke
10.85
Smokers, no exposure to asbestos
53.24
All asbestos workers who smoke
87.36
Asbestos workers who smoke more than 1 pack a day

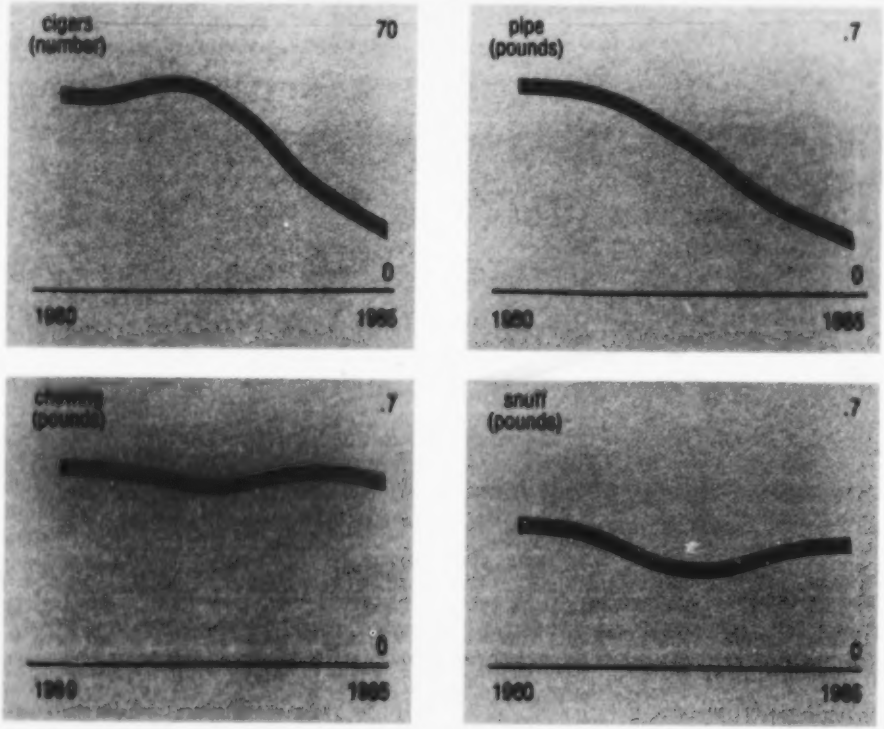
Health Consequences of Smoking, 1985

Pipes, cigars, and smokeless tobacco

The use of pipes, cigars, and smokeless tobacco has been declining for many years, except for one product, moist snuff. Sixty years ago, three of every four pounds of tobacco grown in the United States were used for products other than cigarettes; today, only one pound out of seven is used for these products.

Tobacco in any form presents health risks. Those who smoke pipes and cigars have higher death rates than nonsmokers, although not nearly as high as cigarette smokers, and experience greater risks of cancers of the oral cavity, larynx, pharynx and esophagus. Smokeless tobacco, particularly snuff, increases the risks of oral cancer and noncancerous oral disease.

Per capita consumption of cigars, pipe tobacco, chewing tobacco and snuff. (18 years and older)

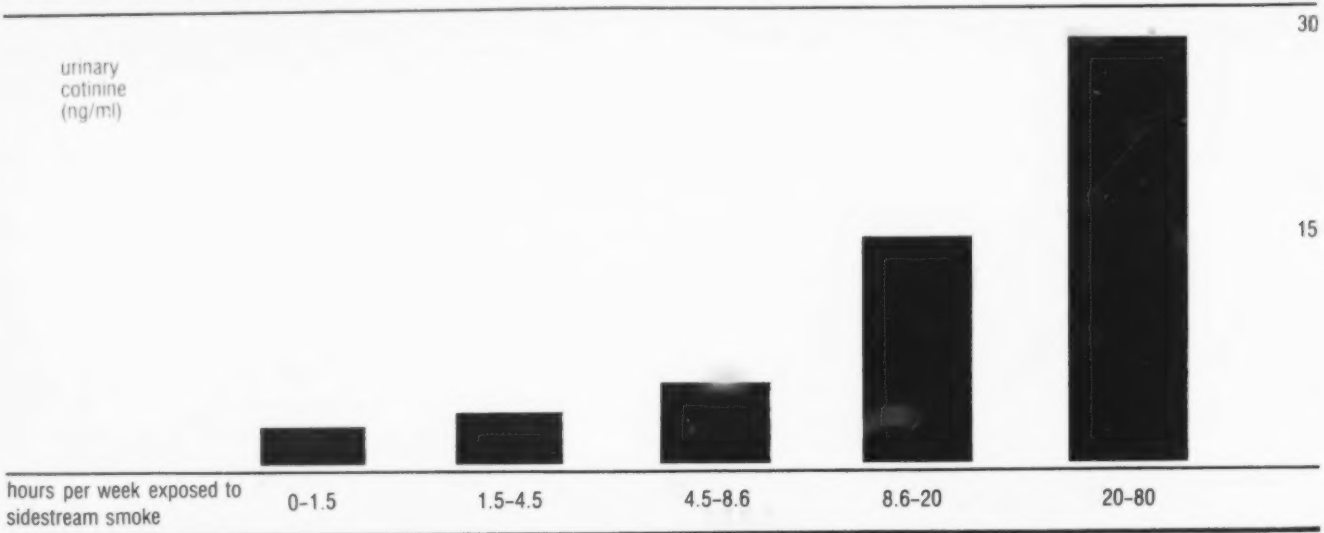


U.S. Department of Agriculture

Passive smoking

Cigarette smokers are not the only persons exposed to cigarette smoke; so are nonsmokers who live or work in the company of smokers. Nonsmokers absorb nicotine, carbon monoxide and other constituents of tobacco smoke just as smokers do.

A nonsmoker's absorption of nicotine



Wald, 1984

although in smaller amounts; how much they absorb depends on the smoke concentrations, the quality of the ventilation, and the time spent in the area. Nonsmokers heavily exposed to other people's smoking may "smoke" the equivalent of one or two cigarettes a day.

Tobacco smoke is highly annoying and physically irritating to many people, and can worsen the symptoms of asthma, chronic bronchitis, and allergies. There is evidence to suggest that it may also cause disease, including lung cancer, and it is known to be a special risk to infants and young children. Children whose parents smoke are more apt to have bronchitis and pneumonia early in life, and small but measurable differences in pulmonary function.

Many States and local jurisdictions and private employers have adopted laws and regulations to protect the nonsmoker, either by banning smoking in public areas and workplaces or by requiring that smoking be restricted to certain areas.

Cigarette Manufacturing and Marketing

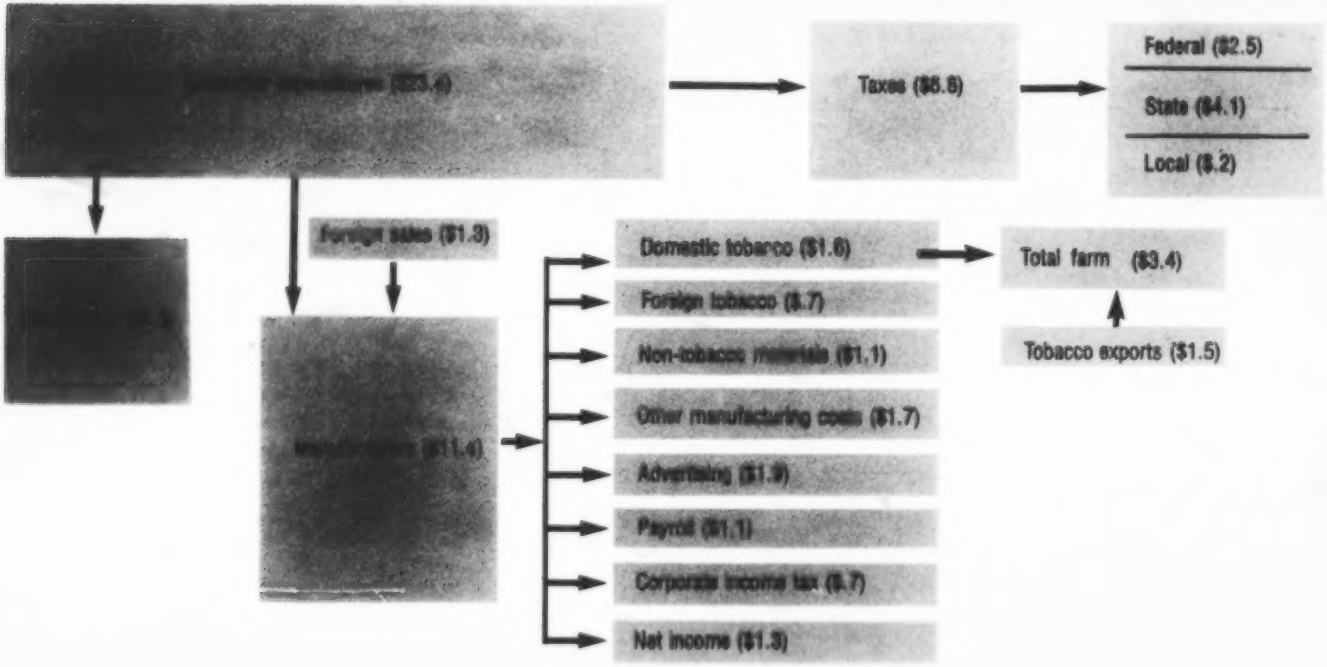
Few businesses are as closely held or as profitable as manufacturing cigarettes. For more than 70 years, there have been six major cigarette companies, which are now subsidiaries of larger companies which tobacco profits helped create. The companies are Philip Morris Inc., R.J. Reynolds Industries, Batus Inc. (Brown and Williamson), American Brands Inc., Grandmet USA Inc. (Liggett & Myers), and Loews Corp. (Lorillard).

All six companies have diversified into many lines of business, including food and beverages, alcoholic beverages, retail stores, fast-food companies, and financial services. Cigarettes are the most profitable of their company lines; in 1982, among the five largest companies, domestic tobacco was responsible for 56 percent of total sales but 81 percent of total profits.

The structure of the cigarette business is shown in the accompanying illustration, which describes the 1982 business year. Total sales in 1982 were $23.4 billion, of which $6.8 billion went to Federal, State and local Governments in taxes, $6.5 billion to distributors, and the rest to manufacturers. In 1984, sales were $28.7 billion and taxes, $9.3 billion.

Unit sales of cigarettes and other tobacco products have remained static or have been falling, but the companies have compensated by raising prices and reducing costs, and the profits of tobacco manufacturers have risen.

The cigarette business in 1982 (billions of dollars)



In 1982, the companies operated 14 cigarette factories employing 41,500 workers with a $1.1 billion payroll. The factories were located in North Carolina, Kentucky, Virginia, and Georgia.

The method which the companies most commonly use in processing tobacco for cigarettes consists of working the stem and midrib portions of the tobacco leaf into a fibrous mass and forming it, as in the manufacturing of paper, into a web or homogenized sheet which is blended with natural tobacco and shredded. The tobacco then goes to a machine which makes a continuous cigarette, cuts it to the required length, and attaches a filter if required. Other machines make the packages and cartons and fill them.

Sales and profits of U.S. tobacco corporations, 1975–1984 (millions of dollars)

Year	Net sales less excise tax	Net income before taxes	Percent income to sales
1975	9,987	1,396	14.0
1976	11,964	1,638	14.3
1977	13,696	1,938	14.2
1978	15,493	2,591	16.7
1979	15,331	2,740	17.9
1980	17,471	3,027	17.3
1981	20,228	3,560	17.6
1982	20,126	3,558	18.6
1983	21,185	3,440	16.2
1984	23,558	4,235	17.9

The cigarette product has changed over the years. In 1945, five cigarette brands, all unfiltered and 70 mm in length, accounted for 90 percent of all cigarette sales. In the 1950s, filtered cigarettes became popular. In the 1960s, low-yield cigarettes made their appearance and in the 1970s, new ultra low-yield cigarettes began to be marketed. In 1954, the average tar yield was 36.5 mg; in 1968, it was 21.6 mg and today it is 12.9 mg. The decline has been accomplished by new tobacco processing methods, the introduction of new filters of varying design and materials, and changes in the design and construction of the cigarette. One of the results of these changes has been a reduction in the amount of tobacco used in the cigarette.

Average tar content of U.S. cigarettes, 1968–1983

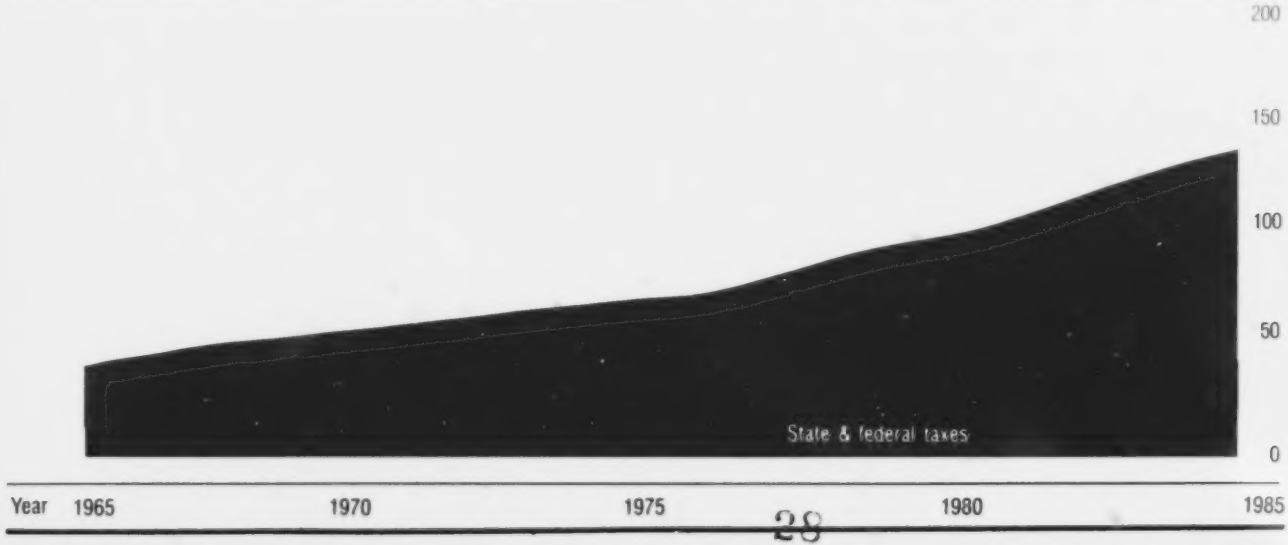
Federal Trade Commission

Cigarette marketing

More than 50 brands of cigarettes are offered for sale, packaged in more than 200 varieties and sizes. The choice is broad: one leading brand, for example, is offered in eight different packages, in hard pack and soft pack, in 85 and 100 mm lengths, and with tar yields of 16 mg and 10 mg, while another is offered in six packages, with and without filters, in hard and soft packs, in 70 mm, 80 mm, 85 mm and 100 mm lengths, and with tar yields of 21 mg, 16 mg, and 9 mg.

Like many other consumer products, cigarettes are produced

Prices of cigarette packages, 1965–1985



The Tobacco Institute

and promoted to appeal to different audiences. Some brands are "upscale" or "high end," offered at premium prices; some brands are aimed at women smokers; other are "macho" brands. Historically, menthol cigarettes have been preferred by many black smokers and menthol brands are consequently promoted heavily to this audience.

Since 1965, the retail price of cigarettes has risen from an average of 30 cents to an average of $1.05 a pack. As a consequence, and for the first time since the depression years of the 1930s, price competition is occurring in the cigarette business. Several strategies are being employed—packs of 25 rather than of 20 cigarettes are being offered at the same price, rebates and coupons are offered, and new, generic brands are being

Tobacco sales by outlet, 1982

(percent)

Bureau of Census

produced and sold at discounted prices.

One-half of all cigarettes are sold in supermarkets and other food stores, mostly by the carton. In recent years, sales by gasoline stations have been increasing while sales from vending machines have been declining.

The companies distribute cigarettes to retailers through tobacco wholesalers and direct sales. In 1982, there were 1,895 wholesale establishments; since then, this number has fallen.

Cigarette advertising and promotion, 1983 (millions of dollars)

Newspapers	$ 201
Magazines	388
Outdoor	295
Transit	27
Sampling	126
Public Entertainment	77
Other Expenditures	787
	$1,901

Federal Trade Commission

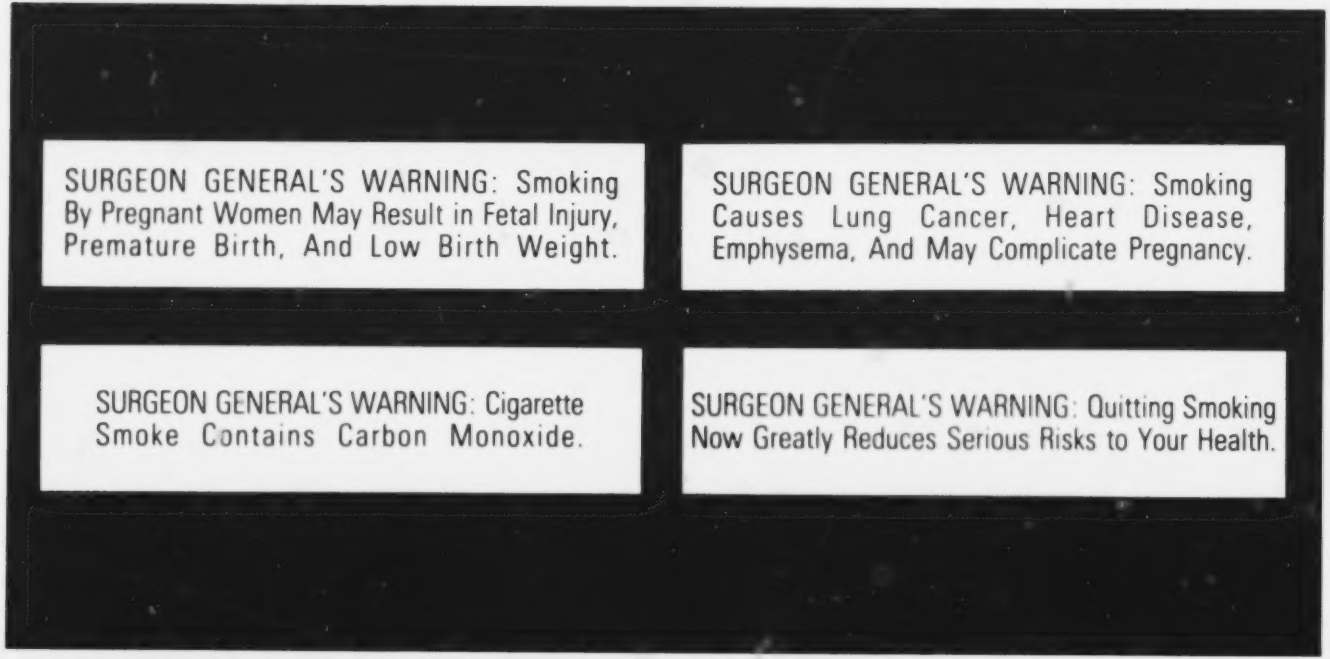
Cigarette advertising

Cigarette companies were once the largest advertisers on television and radio; when Congress banned such advertising in 1971, they turned to the print media and are now the largest national advertisers in these media. Altogether, in 1983, they spent $1.9 billion in advertising and promotion, which is more than they spent in wages and salaries and nearly as much as they spent for tobacco.

There are four restraints on cigarette advertising aside from the general sanctions against unfair and deceptive advertising which apply to all advertisers. By law, cigarettes cannot be advertised on radio or television, warn-

ings must be displayed on packages and advertising, and yields of tar and nicotine must be displayed in advertising, but are not required on packages. By industry agreement, advertisements are not to appear in youth media or use illustrations or themes aimed at young people. There exists no machinery for monitoring or enforcing this agreement.

The ban on television and radio


SURGEON GENERAL'S WARNING: Smoking By Pregnant Women May Result in Fetal Injury, Premature Birth, And Low Birth Weight.
SURGEON GENERAL'S WARNING: Smoking Causes Lung Cancer, Heart Disease, Emphysema, And May Complicate Pregnancy.
SURGEON GENERAL'S WARNING: Cigarette Smoke Contains Carbon Monoxide.
SURGEON GENERAL'S WARNING: Quitting Smoking Now Greatly Reduces Serious Risks to Your Health.

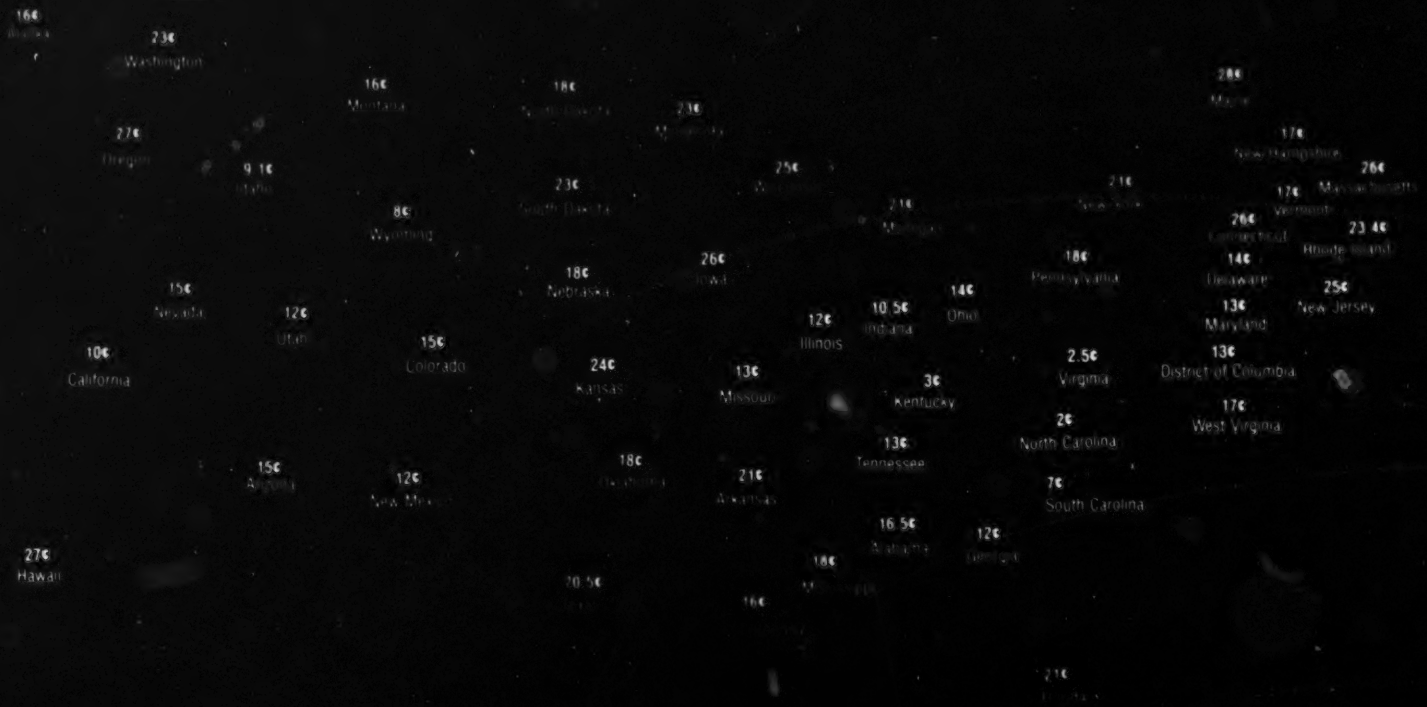
advertising in 1971 allowed the cigarette companies to reduce their advertising expenditures, at least temporarily, and it cut down the number of anti-smoking public service announcements which were then being aired on radio and television in response to a Federal Communications Commission ruling. Stations still broadcast anti-smoking announcements, but on a voluntary basis and in smaller numbers.

In 1985, a new Federal law came into effect which requires cigarette companies to print new, stronger health warnings in advertisements and on packages. There are four warnings in all, which are rotated every three months. The warnings are based on the medical information contained in the *Reports of the Surgeon General on the Health Consequences of Smoking.*

Cigarette taxes

Cigarettes are taxed by the Federal Government, by all 50 states and the District of Columbia, and by several hundred municipalities. The Federal tax is 16 cents a package while the State and local taxes range from 2 cents to 28 cents a package. The Federal tax was raised from 8 cents to 16 cents a package in 1983. In 1965, State and Federal taxes accounted for approximately 51 percent of the price of retail cigarettes. In 1985, State and Federal taxes represented only 30 percent of the retail price of cigarettes.

State cigarette tax per pack, 1985



The Tobacco Institute

Growing Tobacco

Tobacco is this country's sixth most important field crop and its fifth most important farm export. It is the leading source of agricultural income in two States, North Carolina and Kentucky, and a major contributor to income in five other States.

About 180,000 farms grew tobacco in 1985, producing a crop of 1.5 billion pounds valued at $2.5 billion. This is a decline from 1954, when 512,000 farms produced 2,193 million pounds of tobacco. In that year the crop accounted for 4 percent of the Nation's total agricultural income and 10 percent of its agricultural exports. In 1983, this had dropped to 2 percent of farm income and 4 percent of agricultural exports. Cotton is the only other major American crop which has shown a significant economic decline in these years.

Although the cigarette companies are producing almost twice

Production and prices of leaf tobacco, 1947-49 - 1985

Year	Production (millions of pounds)	Unit price (dollars per pound)	Total crop value (millions of dollars)
1947-49	2,019	$ .46	$ 926
1955	2,193	.53	1,166
1960	1,944	.61	1,184
1965	1,855	.65	1,207
1970	1,906	.73	1,389
1975	2,182	1.02	2,238
1980	1,786	1.52	2,721
1983	1,428	1.75	2,496
1984	1,728	1.81	3,128
1985	1,547	1.65	2,552

U.S. Department of Agriculture

as many cigarettes as in 1950, they are using only a little more tobacco now than they did then. The market for tobacco used in other tobacco products has declined greatly.

Cigarette companies are now buying 1.7 pounds of tobacco for every 1,000 cigarettes they produce, compared to 2.7 pounds in 1950. They have accomplished this by utilizing more of the tobacco plant, using various leaf expansion processes, and putting less tobacco into their product.

The American cigarette blend has always utilized Oriental tobaccos, but until a few years ago the companies did not import other types of tobaccos. Now they do, and up to 20 percent of the burley and flue-cured tobaccos in American cigarettes come from Brazil, Zimbabwe, India, Malawi, Thailand, and other countries. American tobacco, although of higher quality, is more expensive than competing tobaccos from abroad.

Growing cigarette tobacco

Some 160,000 tobacco farms produce the three types of tobacco used in cigarettes, which are burley, flue-cured, and Southern

Share of cash receipts by agricultural commodities, 1954 and 1983

	1954	percent	1983
Livestock and livestock products	55		50
Food grains	8		7
Feed crops	9		12
Cotton	9		3
Oil bearing crops	3		10
Fruits and tree nuts	4		4
Vegetables	5		6
Tobacco	4		2
Other crops	3		6

U.S. Department of Agriculture

Maryland. In 1984, domestic burley accounted for 33 percent of the tobacco used in cigarettes, domestic flue-cured 35 percent, and Southern Maryland 2 percent while the remainder was imported. Kentucky produces two-thirds of all burley and North Carolina produces two-thirds of all flue-cured tobacco.

Share of exports by agricultural commodities, 1954 and 1983

	1954	percent	1983
Livestock and livestock products	11		10
Grains	25		45
Cotton	25		5
Oil bearing crops	10		24
Fruits and nuts	6		5
Vegetables	3		3
Tobacco	10		4
Other crops	10		4

U.S. Department of Agriculture

Many changes have taken place in tobacco farming: total acreage has declined, yields per acre have increased, the farms are larger and there is more mechanization. The changes are most striking in the case of flue-cured tobacco. In fewer than 15 years, labor hours have dropped from 425 hours per acre to 173 hours, owing to a switch from tied to untied leaf sales, a changeover to labor saving harvesting devices, including bulk barns and mechanical harvesters, and more efficient preharvest operations. In the case of burley, a satisfactory harvester has not yet been developed and the smaller size of operating units impedes more efficient farming, but even here, labor hours have dropped from an average 360 hours per acre to 300 hours.

Tobacco farms are small. The average farm which grows burley

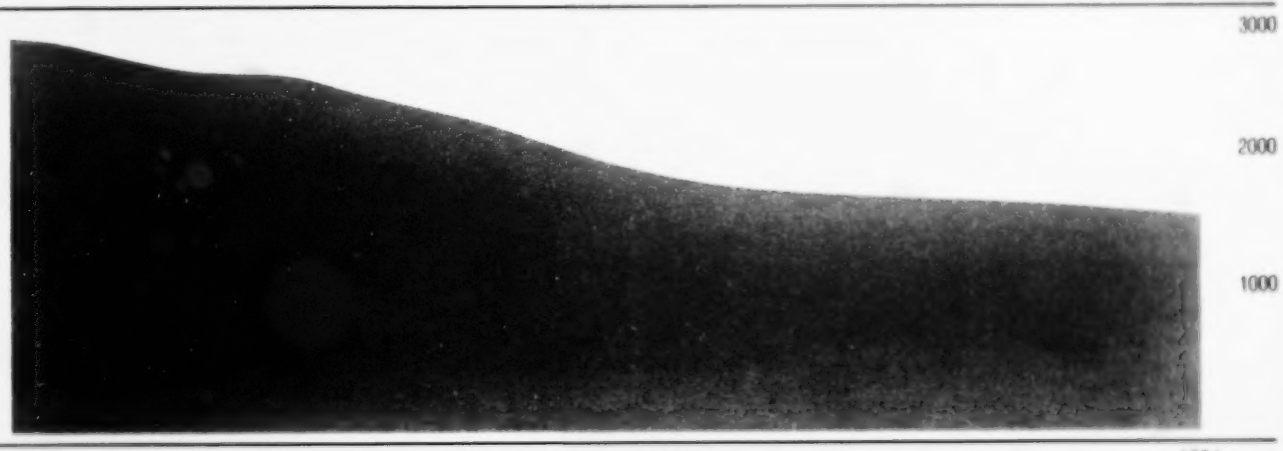
is 86 acres, with 40 acres of cropland and from one to three acres planted in tobacco, while the average farm producing flue-cured tobacco has 114 acres of cropland wih 14 acres planted in tobacco. As might be expected, the majority of tobacco farmers supplement their income with other crops and jobs off the farm.

Tobacco is a high-value crop, with gross receipts in recent years averaging more than $3,000 per acre.

The Federal Program

Tobacco, along with corn, wheat, cotton, peanuts, and rice, is one of the basic crops grown under a Federal price support and supply control program in which farmers agree to limit their production in

Tobacco utilized per 1,000 cigarettes, 1950–1984

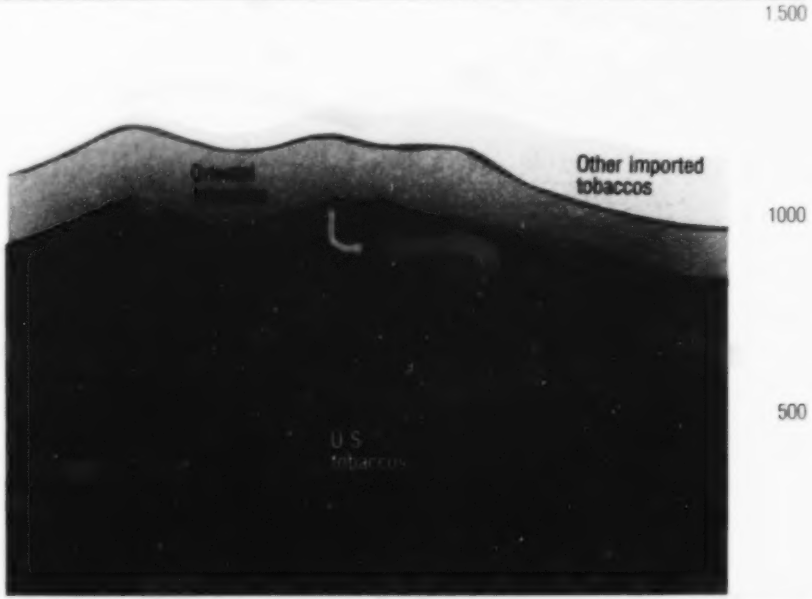


U.S. Department of Agriculture

return for a guaranteed buyer and a guaranteed minimum price. The program is voluntary, accepted or rejected by vote of farmers in a given region, and is operated through regional tobacco cooperatives. If a farmer is not able to sell his crop to a private buyer at auction time, he sells it to the cooperative which places it in storage until a buyer can be found.

For many years the Federal program kept supply and demand in relatively good balance and gave strong protection to the small, family-owned farm. Most of the tobacco placed on loan was eventually sold, making the program more successful from a financial standpoint than most other price-support programs. In the early 1980s, however, serious difficulties began to appear in the operation of the program and

Domestic and foreign tobacco utilized in U.S. cigarettes, 1971-1984



U.S. Department of Agriculture

Congress has instituted sweeping changes through two acts of legislation, one passed in 1982 and the other in 1986.

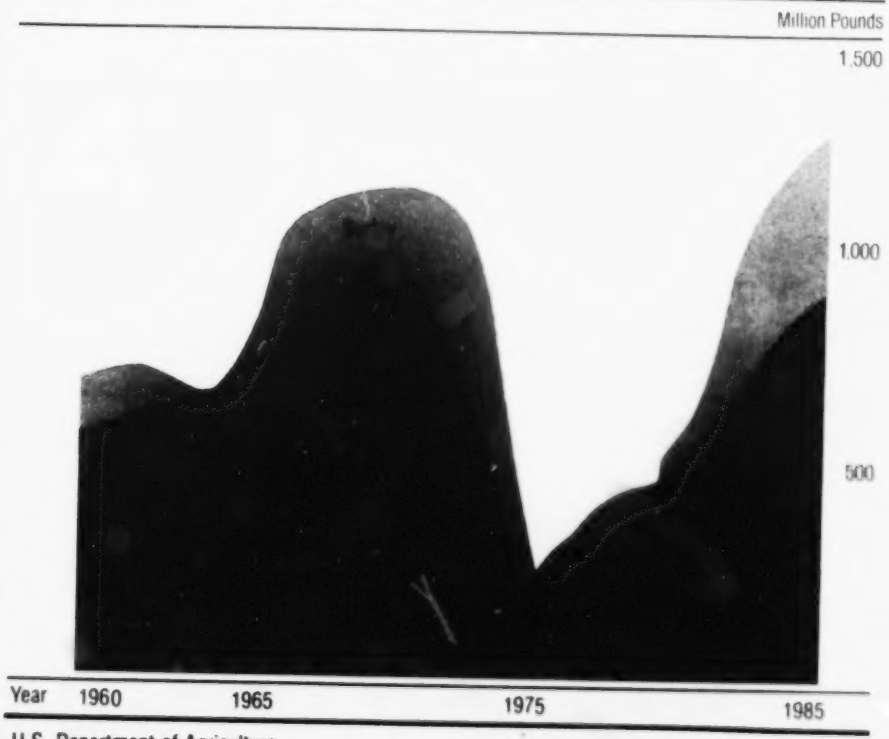
One of the purposes of the 1982 legislation was to transfer all but the administrative costs of the tobacco program from the Government to the farmer. This "No-net-cost" program was to begin with the 1982 crop year, but in 1986 Congress exempted

Acreage, production, and crop value of cigarette-type tobacco, selected States, 1982

State	Number of farms	Acreage	Production	Crop value	Share of farm receipts
		(thousands of acres)	(millions of pounds)	(millions of dollars)	(percent)
North Carolina	29,489	11.5	700.7	$ 1,233.4	30.0
Kentucky	74,166	3.5	577.1	922.9	31.8
South Carolina	3,530	17.0	124.2	218.5	18.9
Tennessee	36,515	2.3	178.1	280.4	13.3
Virginia	13,485	4.7	125.4	217.9	13.0
Georgia	3,005	14.9	105.5	189.1	5.9
Maryland	2,489	10.0	37.5	57.7	5.5

U.S. Department of Agriculture

Tobacco loan stocks at beginning of marketing year, burley and flue-cured, 1960–1985 (millions of pounds)



U.S. Department of Agriculture

the 1983 burley crop, which was of poor quality.

Over the years, the tobacco program has resulted in overpricing American tobacco in the world market by an estimated 40 to 60 cents a pound which has hampered exports abroad and has led American companies to import large amounts of tobacco from foreign countries. The 1986 Act seeks to correct this by setting up procedures whereby guaranteed minimum prices can be lowered and acreages reduced. The cigarette companies are given a role in setting quotas; they must henceforth provide the Secretary of Agriculture with estimates of their tobacco needs a year in advance, under conditions of confidentiality, and will then be required to buy at least 90 percent of these estimates, subject to penalty.

In the past few years, stocks of unsold tobacco have risen to the highest levels in history as a result of increased foreign buying by the cigarette companies, a slackening demand, and the poor burley crop of 1983. At the end of the 1985 crop year, loans covering these stocks stood at $3.5 billion in principal and interest. These funds can never be recovered in full and a loss of more than $1 billion is forecast. Much of the tobacco is of low quality, and higher prices were paid for it than for similar tobaccos currently available in the market.

The 1986 legislation sets up procedures for disposing of these unsold stocks. Surplus inventories from the 1976–1981 crop years are to be offered to the cigarette tobacco buyers at 10 cents on the dollar, at the taxpayer's expense; unsold tobacco from the 1983 burley crop is to be offered on terms and conditions set by the Commodity Credit Corporation, also at the taxpayer's expense; and tobacco from the 1982–1984 crops is to be offered at 90 cents on the dollar, the incurred losses to be at the farmer's expense.

The quota provisions of the tobacco program are being changed. Nearly 200,000 farmers grow tobacco, but 350,000 other persons and institutions own farms with quotas and rent or lease their quotas rather than grow tobacco themselves. Although rents have declined in recent years, quota rent still represents about $500 million annually or nearly one-fifth the value of the entire tobacco crop. Institutional owners, with some exceptions, must now dispose of their quotas, and beginning in 1987, those who hold flue-cured quotas must forfeit them if tobacco has not been planted (or considered planted) during at least two of the last three years.

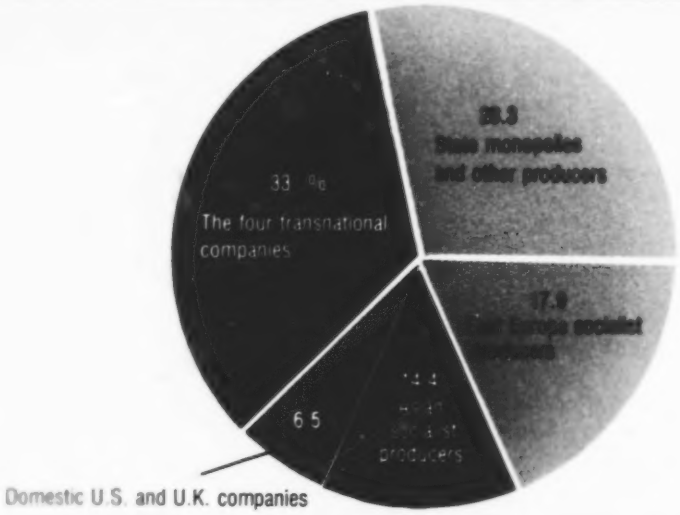
An issue of national policy is whether it is appropriate for the Government and the taxpayer's money to be involved in any manner in the growing of tobacco. Many persons and some health agencies have taken the position that this runs counter to the public good in seeming to encourage a product clearly identified as a threat to health. Others disagree, saying that no public health issue is involved, that providing support to farmers does not encourage people to smoke.

The Cigarette Trade Worldwide

Cigarettes are produced, promoted, and sold everywhere in the world. The United States participates in this worldwide trade in two ways—some 12 percent of all tobacco used in cigarettes in the world comes from the United States, and two of the four transnational companies which control much of the world trade in cigarettes, Philip Morris and R.J. Reynolds, are based in the United States. The other major transnationals are British American Tobacco in the United Kingdom and Ruperts/Rothman in the German Federal Republic, which is now partially owned by Philip Morris.

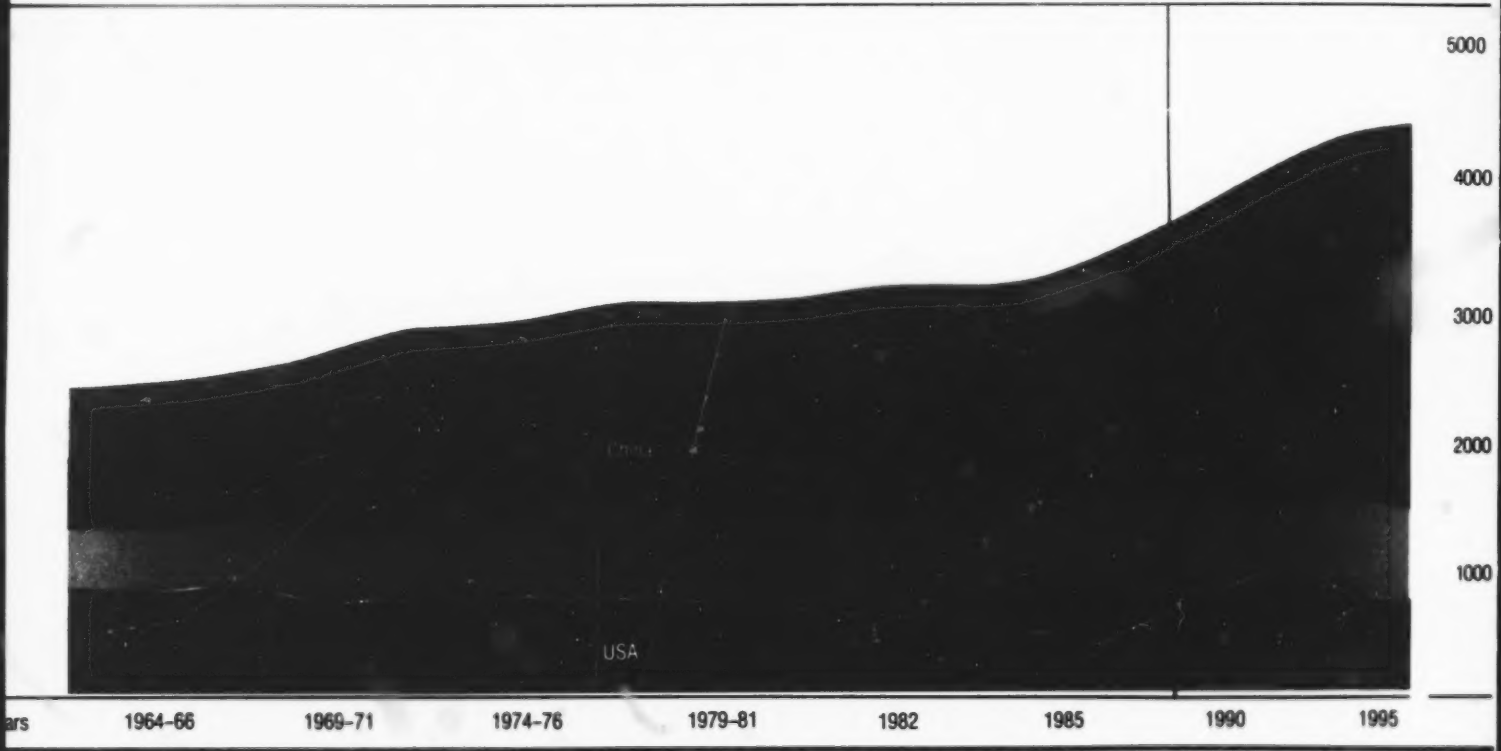
In 1974, the four major transnationals produced one-third of

Estimated world cigarette output by major manufacturing groups, 1974



UNCTAD, June 1978

World tobacco growing 1964-66 - 1995



d Health Organization

the world's cigarettes and controlled even more than this through arrangements with State monopolies and smaller private firms. In the years since, their share is believed to have risen further, with the two American companies gaining proportionately more.

The transnationals operate by exporting manufactured brands, by owning all or part of local tobacco companies, and by licensing their brand names. Movement of manufactured cigarettes across national borders makes up the smallest share of the transnationals' business; in 1985, only 55 billion cigarettes were produced in America for export, less than 10 percent of the total manufactured.

American farmers are growing less tobacco than a generation ago but tobacco growing in other countries of the world has more than doubled in the last 25 years. In the late 1950s, the United States grew approximately one-half of all the tobacco grown in the world outside of China, whereas today it accounts for only 15 percent. Most of the new production has come from the developing countries, where tobacco has become an important source of national income.

China is a special case; the government of that country has encouraged tobacco growing and cigarette consumption has risen greatly, until China is now both the largest producer and the largest consumer of tobacco products in the world.

Cigarette consumption is highest in the developed countries but it is declining there, and as a result the cigarette companies are promoting their brands aggressively in other countries of the world. The percentage of people who smoke in some of these countries is higher than in the United States, but fewer cigarettes are smoked. In some countries, the smokers are mostly men; in China, according to World Health Organization estimates, 90 percent of men smoke but only 3 percent of women, while in Morocco, 90 percent of men

Per capita consumption of cigarettes by total population, selected countries, 1982

Country	Per capita consumption		
Cyprus	3,117	Sweden	1,543
Canada	2,797	Brazil	1,051
United States	2,678	Colombia	873
Spain	2,658	Nicaragua	846
Poland	2,517	Thailand	606
West Germany	1,867	Iraq	574
Italy	1,854	Angola	375
United Kingdom	1,818	Zimbabwe	319
USSR	1,715	Kenya	283
France	1,608	Uganda	146

U.S. Department of Agriculture

smoke but no women at all. In Papua, New Guinea, on the other hand, 85 percent of men smoke and 80 percent of women.

The World Health Organization has warned against both the proliferation of tobacco growing in the developing world and the promotion of smoking in these countries. It has said that the Third World's limited available land and limited resources should be devoted to food and other crops, and that the widespread advertising and promotion of cigarettes should be forbidden. In 1978, the World Health Organization stated, "Failing immediate action, smoking diseases will appear in developing countries before communicable diseases and malnutrition have been controlled, and that the gap between rich and poor countries will thus be further expanded."

DHHS Publication No. (CDC) 87-8397